

## 6. Jean

**Program Name:** Jean.java

**Input File:** jean.dat

Jean is part of a bike sharing program in her town. However, she has noticed recently that some of the bike stops in her town will have an abundance of bikes, whereas other stops will be completely empty. To help address where and how the bikes are moving, she went to every location at the beginning of the day, and tagged one bike. She then monitored all the places the bike traveled that day.

She needs your help to identify where the sources and sinks are in her bike share community stops. A **source** is defined as a stop that one or more bikes left from and none came to. A **sink** is defined as a spot that one or more bikes came to but none left from. All the stops are labeled with letters for Jean to keep up with them.

**Input:** The first integer is the number of data sets to follow. Each data set will begin with an integer to represent the number of stops Jean is monitoring. Each line will represent the bike that Jean tagged, where it started, a "->" symbol, and then all places the bike traveled to (in no particular order). If a bike was not checked out, this will be noted as "**NONE**".

**Output:** The list of alphabetized sources, prefaced by the word "**Sources:** " and the list of alphabetized sinks, prefaced by the word "**Sinks:** ". If there are none, then say "**NONE**".

### Sample input:

```
3
3
A -> A B C
B -> B
C -> NONE
4
E -> E
F -> F
G -> G
D -> NONE
5
Q -> B C V
B -> B C V
C -> B C
D -> B C V
V -> NONE
```

### Sample output:

```
Sources: NONE
Sinks: C
Sources: NONE
Sinks: NONE
Sources: D Q
Sinks: V
```